

We claim:

1. A process for the preparation of a low contact resistance contact on a high transition temperature superconductor which comprises making a groove at the end of the superconductor, depositing a first silver layer by metal spray gun at a temperature 5 120°C , heating the said deposited silver layer at a temperature in a range of 200-250 $^{\circ}\text{C}$ for a time period in the range of 2-5 hrs, wrapping a perforated silver foil on the said heat treated first silver layer, depositing a second silver layer by metal spray gun at a temperature of 120°C , heating the said combination of first silver layer, wrapped perforated silver foil and second silver layer at a temperature in a range of 10 830-850 $^{\circ}\text{C}$ in air for a time period in the range of 100-150 hrs resulting in a joint with the superconductor.
2. A process as claimed in claim 1, wherein the high transition temperature superconductor is a hollow cylindrical tube of length in a range of 200-305mms.
3. A process as claimed in claim 2, wherein wall thickness of the tube is in a range of 15 1-3mms.
4. A process as claimed in claim 2, wherein outer diameter of the tube is in the range of 10-20 mms.
5. A process as claimed in claim 1, wherein high transition temperature superconductor is a solid rod of length in a range of 200-305 mms
- 20 6. A process as claimed in claims 1-5, wherein the high transition temperature superconductor is pure $(\text{Bi},\text{Pb})_2 \text{Sr}_2 \text{Ca}_2 \text{Cu}_3\text{O}_{10+x}$
7. A process as claimed in claims 1-5, wherein the high transition temperature superconductor is $(\text{Bi},\text{Pb})_2 \text{Sr}_2 \text{Ca}_2 \text{Cu}_3\text{O}_{10+x}$ with 10% silver.
8. A contact when made by the process of claim 1, wherein the contact resistance is in a 25 range of 3.07×10^{-6} to $3.0 \times 10^{-7} \Omega$ in zero applied magnetic field at 77K
9. Contact as claimed in claim 8, wherein the contact resistance is in a range of 1.5×10^{-8} to $8.5 \times 10^{-8} \Omega$ in zero applied magnetic field at 4.2K